#9
SMC
1/14/03
(NE)

SUBSTITUTE SPECIFICATION

TITLE

ok to enter
3/17/03

METHOD AND ARRANGEMENT FOR ADMINISTERING PERFORMANCE FEATURES FOR TELEPHONE SUBSCRIBES

BACKGROUND OF THE INVENTION

Field of the Invention

The invention is directed to both a method and a system for administering performance features for telephone subscribers wherein such administration occurs via a personal computer in communication with an Internet server which is, in turn, in communication with a telephone exchange which includes a data base pertaining to the desired performance features via a telephone network.

Description of the Prior Art

A multitude of performance features are presently made available to telephone subscribers, wherein such performance features reside in the telephone exchange to which these are connected. Usually, the administration of such performance features (i.e., the establishment and, potentially, modification thereof) occurs via a central location responsible for a plurality of telephone exchanges—what is referred to as an O&M center (Operation & Maintenance). For a plurality of performance features, however, the possibility also must be established that the subscriber himself can influence an administration of performance features.

Up until now, one has proceeded in this context such that the subscriber informed the telecommunications administration of his establishment or modification wish for a performance feature, and the corresponding administrative jobs were subsequently implemented by the service personnel in the appertaining telephone exchange. This, of course, is a personnel-intensive procedure that, moreover, involves long waiting times until the execution of the customer wishes.

For performance features for which this cannot be accepted, there is the possibility that the telephone subscriber can activate and, potentially, modify performance features proceeding from the terminal equipment by inputting numerical combinations. The procedures required for this purpose, however, are complicated

and not very user-friendly because of the plurality of performance features coming into consideration.

The object of the present invention, therefore, is to specify a method that makes the administration of performance features less time-consuming and more comfortable for telephone subscribers compared to prior conditions.

SUMMARY OF THE INVENTION

In accordance with the present invention, therefore the communication required for such an administration between a location undertaking the administration and the telephone exchange wherein the data base pertaining to the performance features is contained is therefore sequenced upon utilization of an Internet connection of data terminal equipment, which is provided with a display, working with an Internet browser that is located at the site of the location undertaking the administration. An Internet server is established for this purpose, which is capable of communicating, on the one hand, with the data terminal equipment via an Internet connection and, on the other hand, the telephone exchange via a telecommunications connection. A graphic user interface is, thus, made available for the administration of performance features, this graphic user interface being particularly predestined for such jobs.

The advantages of the invention particularly take effect in the above-discussed application wherein the performance feature administration is to be undertaken by the telephone subscriber himself. The administration, thus, can be undertaken proceeding from the telephone subscriber's personal computer, wherein the offering of a special telephone terminal equipment is not required. However, the inventive method for the exchange administration including the administration of subscriber performance features, also can be advantageously applied from a service center—the O&M Center.

In an embodiment, the access of the data terminal equipment to the Internet may occur via the telephone network, which usually will be the case when the administration ensues by the telephone subscriber, or occurs via a data line connection, which is more likely to be the case when the administration is undertaken proceeding from a service center.

In a further embodiment, the Internet server is a component part of a log on a node for the Internet integrated into a telephone exchange. In order to enable a communication with the operations and maintenance technology of this telephone

exchange, the Internet server contains an operations and maintenance application that corresponds to an operations and maintenance application with which the operations and maintenance technology of the telephone exchange is supplemented.

The invention is explained in greater detail below with reference to an exemplary embodiment and to a figure.

Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description of the Preferred Embodiments and the Drawings.

DESCRIPTION OF THE DRAWINGS

Fig. 1 schematically illustrates the administration of subscriber performance features by a telephone subscriber in accordance with the teachings of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Fig. 1 shows a telephone network TN which includes both a first local telephone exchange LE1 and a second local telephone exchange LE2. The connection of telephone terminal equipment TLF and of a personal computer TLPC of a telephone subscriber via a subscriber line TLA is shown at the local exchange LE1.

A log on node POP into the Internet is indicated as a component part of the local exchange LE2. The personal computer TLPC is intended to have access to the telephone network T via a modem (not shown) and, from the latter, to the Internet via the log on node POP. The subscriber, thus, should have a browser, for example a WWW browser (Worldwide Web), available; i.e., a possibility and a comfortable graphic interface for accessing and displaying data available in the Internet. For illustrating such an Internet connection, blocks having fields TCP, IP and PPP are shown at the personal computer of the subscriber TLPC and at the log on node POP. These blocks indicate the protocols of transmission control protocol (TCP), Internet Protocol (IP) and Point-to-Point Protocol (PPP) employed given a communication via the Internet.

The switching technology software critical for the creation of telephone connections is referenced VT at the local exchanges LE1 and LE2. Moreover, the subscriber data base in which the entries for the subscriber performance features are also located is indicated as TB at the local exchange LE1.

A specific Internet server, a WWW server here, belongs to the Internet log on node POP shown as a component part of the local exchange LE2. This server is configured such that, on the one hand, it can communicate with an Internet subscriber via an Internet connection (i.e., upon employment of the protocols TCP/IP with the personal computer TLPC in this case) and, on the other hand, it also can exchange information with the local exchange LE1 via a telephone connection. In order to enable this, this server, as indicated in Fig. 1, is equipped with a switching-oriented application VTAS that corresponds to a switching-oriented application VTALE by which the switching technology VT of the local exchange LE2 is expanded.

Fig. 1 also shows a service center O&M (Operation and Maintenance) at which data terminal equipment PC is likewise shown. This service center is in communication here with the log on node POP via a data line. However, it would also be conceivable that this service center, like the personal computer TLPC, reaches the log on node POP via a line of the telephone network as it also would be conversely possible that the connection of the personal computer TLPC of the telephone subscriber (differing from that shown) does not have access to the log on node POP and, thus, to the specific server WWW-s of the Internet via the telephone network but via a data line. Broken connecting lines in the Fig. 1 also indicate the possibility that the access of the personal computer (TLPC) of a telephone subscriber or of a service center (O&M-PC) occurs via connecting paths of the Internet INT.

When an administration of performance features is to be undertaken proceeding from the telephone subscriber, wherein it will be a matter of activation or deactivation in most instances (such as, for example, the performance features of "do-not-disturb" and "display telephone numbers of outgoing calls," or modify inputs come into consideration such as given the performance feature of "call forwarding," then, in conformity with the inventive method, the telephone subscriber sets up an Internet connection of his personal computer TLPC via the telephone network and the log on node POP. The telephone number of the connection to be administered (i.e., his telephone number) is to be communicated via his WWW browser to the WWW server WWW-s belonging to the log on node POP, being communicated thereto in the form of an Internet message.

Due to the switching-oriented application VTAS, this server is in the position to forward this telephone number via the switching-oriented application VTALE to the switching technology VT of the local exchange LE2. This can occur, for example, via an ISDN-D channel message when the log on node POP is connected to the local exchange LE1 in the form of an ISDN primary connection. Under the control of the switching-oriented application VTALE or, respectively, of the switching technology VT, a connection is set up via the telephone network T to the local exchange LE1 that can be recognized based on the telephone number and at which the inquiring telephone subscriber has his personal computer TLPC connected. The communication of this message can thereby occur, for example, in the signaling channel according to the signaling system No. 7 of the telephone network; see the connection arrow between the blocks No. 7CC at the two local exchanges symbolizing the signaling software. The telephone subscriber is thus in the position, upon utilization of his WWW browser that offers him a corresponding comfortable user interface, to communicate with the data base of his own telephone exchange LE. The data exchange between PC and the WWW server thereby occurs in the form of the exchange of data packets according to the Internet protocol (IP), wherein a conversion for continuing this communication via the telephone network respectively occurs on the basis of the switching-oriented application VTAS.

As already indicated above, the inventive method is not limited to the performance feature administration of telephone subscribers, but also can be advantageously utilized for switching center administration including subscriber administration proceeding from the service center when it is a matter of, for example, the establishment of new telephone connections and the like.

Indeed, although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize that changes may be made thereto without departing from the spirit and scope of the present invention as set forth in the hereafter appended claims.